

What is claimed is:

1. A data transmission device comprising:

a first generator for generating a first data stream that is utilized after the first data stream is accumulated in a recording medium on a receiving side;

a second generator for generating a second data stream that includes audio data and video data;

a multiplexer for multiplexing the first data stream and the second data stream;

a transmitter for transmitting the multiplexed data stream that has been multiplexed by the multiplexer; and

a controller for controlling the multiplexer so that a transmission rate for the first data stream becomes lower than that for the second data stream.

2. A data transmission device according to claim 1, wherein said first data stream includes data relating to an electronic-commercial transaction.

3. A data transmission device according to claim 1, wherein said first data stream includes audio data and video data.

4. A data transmission device according to claim 1, wherein a maximum transmission rate for said multiplexed data stream is 24 Mbps.

5. A data transmission device according to claim 4,

wherein a transmission rate for said first data stream is about 2 Mbps.

6. A data receiving device comprising:

a receiver for receiving a multiplexed data stream, in which a first data stream, which is utilized after the first data stream is accumulated in a recording medium on a receiving side, and a second data stream including audio data and video data are multiplexed into the multiplexed data stream in such a manner that a transmission rate for the first data stream becomes lower than that for the second data stream;

a separator for separating the multiplexed data stream, which has been received by the receiver, into the first data stream and the second data stream; and

a recorder for recording the first data stream, which has been separated by the separator, on a recording medium.

7. A data receiving device according to claim 6, wherein said first data stream includes data relating to electronic-commercial transaction.

8. A data receiving device according to claim 6, wherein said first data stream includes audio data and video data.

9. A data receiving device according to claim 6, wherein a maximum transmission rate for said multiplexed data stream is 24 Mbps.

10. A data receiving device according to claim 9,

wherein a transmission rate for said first data stream is about 2 Mbps.

11. A data receiving device according to claim 6, wherein said recorder records a first data stream, which is in a field with a high user-viewing frequency, for preference.

12. A data receiving device according to claim 6, wherein said recorder records a first data stream, which is in a field specified beforehand, for preference.

13. A data receiving device according to claim 6, wherein said recorder includes a hard disk as a recording medium.

14. A data receiving device according to claim 6, wherein said recorder comprises an outputter for outputting a user's viewing history visually.

15. A transmission device comprising:

transmitting means for transmitting a data stream, which includes audio data and video data, using a program broadcasting band, and transmitting a data stream, which is utilized after this data stream is accumulated in a recording media on a receiving side, by allocating this data stream to a data broadcasting band; and

controlling means for controlling the program broadcasting band and the data broadcasting band so that a sum of the bands does not exceed a given bandwidth.

16. A transmission device according to claim 15,

wherein a sum of said program broadcasting band and said data broadcasting band is 24 Mbps.

17. A receiving device comprising:

receiving means for receiving a broadcast in which a data stream including audio data and video data is transmitted using a program broadcasting band and other data stream, which is utilized after this data stream is accumulated in a recording media on a receiving side, is transmitted using a data broadcasting band to which this data stream is allocated, and the program broadcasting band and the data broadcasting band are controlled so that a sum of the bands does not exceed a given bandwidth;

separating means for separating the data stream, which has been allocated to the data broadcasting band, from the broadcast that has been received by the receiving means; and

recording means for recording the separated data stream.

18. A receiving device according to claim 17, wherein a sum of said program broadcasting band and said data broadcasting band is 24 Mbps.

19. A data transmitting method comprising the step of:

generating a first data stream that is utilized after the first data stream is accumulated in a recording medium on a receiving side;

generating a second data stream that includes audio data

and video data; and

transmitting a multiplexed data stream that has been multiplexed from the first data stream and the second data stream;

wherein said multiplexed data stream is multiplexed in such a manner that a transmission rate for the first data stream becomes lower than that for the second data stream.

20. A data transmitting method according to claim 19, wherein said first data stream includes data relating to electronic-commercial transaction.

21. A data transmitting method according to claim 19, wherein said first data stream includes audio data and video data.

22. A data transmitting method according to claim 19, wherein a maximum transmission rate for said multiplexed data stream is 24 Mbps.

23. A data transmitting method according to claim 22, wherein a transmission rate for said first data stream is about 2 Mbps.

24. A data receiving method comprising the step of:
receiving a multiplexed data stream that is multiplexed from a first data stream, which is utilized after the first data stream is accumulated in a recording medium on a receiving side, and a second data stream including audio data and video

data in such a manner that a transmission rate for the first data stream becomes lower than that for the second data stream, separating the multiplexed data stream, which has been received, into the first data stream and the second data stream; and

recording the first data stream, which has been separated, on a recording medium.

25. A data receiving method according to claim 24, wherein said first data stream includes data relating to electronic-commercial transaction.

26. A data receiving method according to claim 24, wherein said first data stream includes audio data and video data.

27. A data receiving method according to claim 24, wherein a maximum transmission rate for said multiplexed data stream is 24 Mbps.

28. A data receiving method according to claim 27, wherein a transmission rate for said first data stream is about 2 Mbps.

29. A data receiving method according to claim 24, wherein a first data stream, which is in a field with a high user-viewing frequency, is recorded for preference on said recording medium.

30. A data receiving method according to claim 24,

wherein a first data stream, which is in a field specified beforehand, is recorded for preference on said recording medium.

31. A transmitting method comprising the step of:

transmitting a data stream including audio data and video data, using a program broadcasting band, and transmitting other data stream, which is utilized after this data stream is accumulated in a recording media on a receiving side, by allocating this data stream to a data broadcasting band; and

controlling the program broadcasting band and the data broadcasting band so that a sum of the bands does not exceed a given bandwidth.

32. A transmitting method according to claim 31,

wherein a sum of said program broadcasting band and said data broadcasting band is 24 Mbps.

33. A receiving method comprising the step of:

receiving a broadcast in which a data stream including audio data and video data is transmitted using a program broadcasting band and other data stream, which is utilized after this data stream is accumulated in a recording media on a receiving side, is transmitted using a data broadcasting band to which this data stream is allocated, and the program broadcasting band and the data broadcasting band are controlled so that a sum of the bands does not exceed a given bandwidth,

and

recording the data stream, which has been allocated to the data broadcasting band, from the broadcast received by said receiving step.

34. A receiving method according to claim 33, wherein a sum of said program broadcasting band and said data broadcasting band is 24 Mbps.

35. A recording device comprising:

inputting means for inputting at least a data stream that is multiplexed from the first data stream including audio and video data, and from the second data stream including audio and video data transmitted as a broadcasting program;

separating means for separating the multiplexed data stream into the first data stream and the second data stream;

recording medium on which the first and the second separated data streams are recorded;

playback means for playing back the first data stream that has been recorded on the recording medium; and

record controlling means for controlling a given area of the recording medium so that only the first data stream is permitted to be recorded on the given area.

36. A recording device according to claim 35, wherein said inputting means inputs a data stream, which is multiplexed in such a manner that a transmission rate of the first data

stream becomes lower than a coding bit rate of the first data stream.

37. A recording device according to claim 35, wherein said record controlling means deletes pieces of data in the first data stream, which have been recorded when a size of a recording area has become lower than or equal to a given size or zero, in the recorded order and records a new first data stream.

38. A recording device according to claim 35, wherein said first data stream comprises at least image and voice contents and/or contents for e-commerce.

39. A recording device according to claim 35, wherein said recording medium is a hard disk that is built into, or added externally to, a television receiver.

40. A recording device according to claim 35, wherein said hard disk has recording capacity of at least 36 GB.

41. A recording device according to claim 35, wherein a transmission rate for said first data stream is about 2 Mbps, whereas a maximum transmission rate for the first and the second data streams is 24 Mbps.

42. A recording device according to claim 35, wherein a first data stream, which is in a genre with a high viewing frequency, is recorded for preference on said recording medium.

43. A recording device according to claim 35, wherein

a first data stream, which is in a genre specified beforehand, is recorded for preference on said recording medium.

44. A recording device comprising:

inputting means for inputting at least a data stream that is multiplexed from the first data stream including audio and video data, and the second data stream including audio and video data transmitted as a broadcasting program;

separating means for separating the multiplexed data stream into the first data stream and the second data stream;

recording medium on which the first and the second separated data streams are recorded;

playback means for playing back the first data stream that has been recorded on the recording medium; and

record controlling means for controlling a given area of the recording medium so that only the first data stream is permitted to be recorded on the given area;

wherein an area of said recording media is divided into a provider-specific area and an user-specific area.

45. A recording device according to claim 44, wherein said inputting means inputs a data stream, which is multiplexed in such a manner that a transmission rate of the first data stream becomes lower than a coding bit rate of the first data stream.

46. A recording device according to claim 44, wherein

said record controlling means controls recording so that, when a size of a recording area becomes lower than or equal to a given size or zero, the oldest first data stream from among the first data streams, which have been recorded, is deleted to record a new first data stream.

47. A recording device according to claim 44, wherein said first data stream comprises at least image and voice contents and/or contents for e-commerce.

48. A recording device according to claim 44, wherein said recording medium is a hard disk that is built into, or added externally to a television receiver.

49. A recording device according to claim 48, wherein said hard disk has recording capacity of at least 36 GB.

50. A recording device according to claim 44, wherein a transmission rate for said first data stream is about 2 Mbps, whereas a maximum transmission rate for the first and the second data streams is 24 Mbps.

51. A recording device according to claim 44, wherein said record controlling means controls recording so that a first data stream, which is in a genre with a high viewing frequency, is recorded for preference.

52. A recording device according to claim 44, wherein said record controlling means controls recording so that a first data stream, which is in a genre specified beforehand,

is recorded for preference.

53. A playback device comprising:

a recording medium for recording at least the first data stream including audio and video data, and the second data stream including audio and video data, which is transmitted as a broadcasting program; and

a playback control means for playing back the first data stream that is recorded on a predefined area of the recording medium.

54. A playback device according to claim 53, wherein said first data stream comprises at least video and audio contents and/or contents for e-commerce.

55. A playback device according to claim 53, wherein said recording medium is a hard disk that is built into, or added externally to a television receiver.

56. A playback device according to claim 53, wherein said hard disk has recording capacity of at least 36 GB.

57. A recording method comprising the step of:

inputting at least a data stream that is multiplexed from a first data stream including audio and video data, and a second data stream including audio and video data transmitted as a broadcasting program;

separating the multiplexed data stream into the first data stream and the second data stream;

recording the first and the second separated data streams on a given recording medium;

playing back the first data stream that has been recorded on the recording medium; and

controlling a given area of the recording medium so that only the first data stream is permitted to be recorded on the given area.

58. A recording method according to claim 57, comprising the additional step of inputting a data stream, which is multiplexed in such a manner that a transmission rate of the first data stream becomes lower than a coding bit rate of the first data stream.

59. A recording method according to claim 57, comprising the additional step of recording a first data stream in such a manner that, when a size of a recording area in said recording medium becomes lower than or equal to a given size or zero, the oldest first data stream from among the first data streams, which have been recorded, is deleted to record a new first data stream.

60. A recording method according to claim 57, wherein said first data stream comprises at least image and voice contents and/or contents for e-commerce.

61. A recording method according to claim 57, wherein said recording medium is a hard disk that is built into, or

added externally to a television receiver.

62. A recording method according to claim 61, wherein said hard disk has recording capacity of at least 36 GB.

63. A recording method according to Claim 57, wherein a transmission rate for said first data stream is about 2 Mbps, whereas a maximum transmission rate for the first and the second data streams is 24 Mbps.

64. A recording method according to claim 57, wherein recording on said medium is controlled so that a first data stream, which is in a genre with a high viewing frequency, is recorded for preference.

65. A recording method according to claim 57, wherein recording on said recording medium is controlled so that a first data stream, which is in a genre specified beforehand, is recorded for preference.

66. A playback method comprising the step of:

recording at least a first data stream including audio and video data, and a second data stream including audio and video data, which is transmitted as a broadcasting program, on a recording medium; and

playing back the first data stream that is recorded on a predefined area of the recording medium.

67. A playback method according to claim 65, wherein said first data stream comprises at least image and voice

contents and/or contents for e-commerce.

68. A playback method according to claim 66, wherein said recording medium is a hard disk that is built into, or added externally to a television receiver.

69. A playback method according to claim 68, wherein said hard disk has recording capacity of at least 36 GB.